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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/080,861	05/18/1998	HIROSHI ENDO	1272.6808CI/	9856

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EXAMINER

LEE, TOMMY D

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/080,861

Applicant(s)

ENDO ET AL.

Examiner

Thomas D. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response

1. This Office action is responsive to applicant's RESPONSE TO OFFICE ACTION, filed October 27, 2003. Claims 13-27 are pending.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 13-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,335,295 (Ferracini et al.) in view of U.S. Patent 4,394,693 (Shirley).

Regarding claims 13-20, Ferracini et al. teach an image processing section comprising: a memory for storing the image data (noting Fig. 3, image buffer 102, line buffer 312 within shrinking module 108 (column 4, lines 26-32)); first processing means for executing image data magnifying processing based on first magnifying rate information (noting Fig. 1, interpolator module 104 (column 3, lines 8-17)); and second processing means for executing the image data magnifying processing for an image based on the image data magnified by said first processing means, based on second magnifying rate information (shrinking module 108 (column 3, lines 30-34)), wherein said first magnifying rate information is determined based on at least one of a resolution of printing performed by said printing section, an processing load to be borne by said first processing means, a capacity of said memory and a resolution shown by the image data, and a magnification rate of the image based on the image data (magnification rate determined on the basis of a magnification rate of the image to be output based on the

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image data (column 4, lines 51-60)). Said second magnifying rate information is determined based on said first magnifying rate information and the magnifying rate of the image to be output based on the image data (column 4, lines 61-67). The magnifying rate of the image is a magnifying rate corresponding to a product of a magnifying rate shown by said first magnifying rate information multiplied by a magnification rate shown by said second magnifying rate information (column 4, line 67). Said memory is provided to store the image data magnified by said first processing means (intermediate image inherently stored so that the shrinking operation may be performed on the intermediate image as disclosed at column 5, lines 1-18).

Ferracini et al. do not teach a printing system including a printing section to perform printing on a printing medium (claim 13), wherein said second processing means is provided in the printing section (claim 17), the printing section having a printing apparatus using a printing head to perform printing on the printing medium and the image processing section having an apparatus outputting the image data to the printing apparatus (claim 18), wherein the printing head is an ink jet head ejecting ink onto the printing medium (claim 19), wherein the ink jet head has electro-thermal converting element applying thermal energy to ink to eject the ink by utilizing the thermal energy (claim 20). Shirley teaches a system and method for generating enlarged or reduced images (note Abstract), which is performed on a printing system including a printing section (noting Fig. 1, image reproduction system 39) having a printing apparatus using a printing head (ink jet array 32) to perform printing on the printing medium (paper 34) and the image processing section having an apparatus

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outputting the image data to the printing apparatus (data output to ink jet control 30).

The method may be applied to a thermal picture reproduction system as well (column 3, lines 10-16). Whether processing means for scaling the image is providing in the printing section is a matter of design choice, so long as the processing means is present anywhere between image capture and image reproduction.

One of ordinary skill in the art would have recognized the need to provide a means for magnifying or reducing image data such as taught by Ferracini et al. in an ink jet or thermal printer, since magnification and reduction are features in general are well-known features in such printers. Therefore, applying the method of scaling images as taught by Ferracini et al. in an ink jet or thermal printer would have been an obvious modification to one of ordinary skill in the art.

Claims 21-27 are method claims corresponding to system claims 13-19, respectively, and thus are rejected for the reasons mentioned above, as the method steps are performed by the elements found in the combined teachings of Ferracini et al. and Shirley.

Response to Arguments

4. Applicant's arguments filed in response to the rejection of the claims as set forth in the prior Office action and repeated above have been fully considered but they are not persuasive.

In response to the prior Office action, applicant states, at the paragraph beginning on page 2, line 20, that the applied references fail to disclose or suggest "first processing means for executing image data magnifying processing based on first

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magnification rate information, and second processing means for executing the image data magnifying processing for an image to be printed based on the image data magnified by the first processing means, based on second magnifying rate information.” Applicant further states that the applied art fails to disclose or suggest “that the first magnifying rate information is determined based on at least one of a resolution of printing performed by the printing section, a processing load to be borne by the first processing means, a capacity of the memory and a resolution shown by the image data, and a magnifying rate of the image to be printed on the printing medium based on the image data.” Applicant reiterates this assertion with respect to Ferracini et al. (at the paragraph beginning on page 3, line 7) and Shirley (at the paragraph beginning on page 3, line 21).

Contrary to applicant's assertion, the above limitations are disclosed by the combined prior art. Ferracini et al. teach first processing means for executing image data magnifying processing based on first magnification rate information (interpolator module 104 magnifies an image contained in image buffer 102 by a specified factor G1 greater than 1 (column 3, lines 8-17)), and second processing means for executing the image data magnifying processing for an image to be printed based on image data magnified by the first processing means, based on second magnifying rate information (shrinking module 108 receives magnified image data 110 from interpolator module 104 (Fig. 1) and magnifies the image by a specified factor G2 less than 1 (column 4, lines 61-67)). The first magnification rate is determined based on at least a magnifying rate of the image based on the image data (G1 determined on the basis of the overall

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scaling factor G (column 4, lines 51-60)). Ferracini et al. do not disclose a printing section for printing the magnified image on a printing medium. However, this feature is disclosed by Shirley (dot generator array prints scanned image at a modified scale factor, read Abstract).

Applicant further states that "even if Ferracini and Shirley were combined, for which combination no motivation or suggestion is seen to be provided, such a combination would not be seen to disclose or suggest the foregoing combination of features of independent claim 13." However, as noted in the prior Office action, magnification and reduction are well-known features in printers. Applying the scaling feature taught by Ferracini et al. in a printer, such as taught by Shirley, would have been an obvious modification to one of ordinary skill in the art, since it is often desired by a user to output a magnified or reduced image, or any modified image, in printed form so that it can be distributed to others as a hard copy.

Accordingly, the prior rejection of the claims as set forth in the prior Office action is maintained.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (703) 305-4870. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Thomas D. Lee
Primary Examiner
Art Unit 2624

tdl
January 5, 2004